VU Master’s Day March 12, 2016
— Computer Science —

A Joint Degree offered by:

UNIVERSITY OF AMSTERDAM

VU UNIVERSITY AMSTERDAM
Your hosts today:

▶ **Thilo Kielmann**
Associate prof. (UHD) Computer Science (VU),
program director

▶ **Alban Ponse**
Associate prof. (UHD) Computer Science (UvA),
UvA program coordinator

Our programme today:

▶ The new **Joint-Degree Master in Computer Science** in Amsterdam
Who is us?

Two top universities for the price of one!!
Disadvantage:

▶ Two teaching locations: Science Park and Zuidas

Advantages:

▶ A Joint Degree: One diploma issued by both universities
▶ Larger selection of courses
▶ More research opportunities for graduation projects
▶ More world-class researchers at your finger tips
▶ More resources
▶ More of everything . . .
Fact Sheet:

- 2 years
- 120 ECTS credits
- Taught in English
- Internationally visible
- International student population
- Leading to a top position in industry (in NL and abroad)
- Leading to a position in industrial research
- Leading to a career in academia
Curriculum Structure

Four pillars:

- Master Core (54 EC)
- Choice of 6 tracks (30 EC):
  - Big Data Engineering
  - Computer Systems Security
  - Foundations of Computing and Concurrency
  - Internet and Web Technology
  - Parallel Computing Systems
  - Software Engineering and Green IT
- Constrained Choice packages (6–18 EC)
- Free Choice courses (18–30 EC)
Master Core (54 EC)

- **Distributed Systems** (6 EC)
  laying the foundation of today’s IT systems where everything is connected with everything else

- **History of Digital Cultures** (6 EC)
  placing CS into its societal and historical context

- **Literature Study and Seminar** (6 EC)
  investigating existing solutions to a research question and presenting findings within one of the research groups

- **Graduation Project** (36 EC)
  Independently executing a project, turning everything learned so-far into a master piece
Track: Big Data Engineering

Track theme:
- The technology for transforming data into insights

Track core:
- High-performance Computing and Big Data
- Web Data Processing Systems
- Large-Scale Data Engineering
- Information Visualization
- Data Mining Techniques

Track coordinator:
- Dr Adam Belloum (a.s.z.belloum@uva.nl)
Track: Computer Systems Security

Track theme:

▶ Security of computer systems, malware analysis and defense

Track core:

▶ Systems Security
▶ Binary and Malware Analysis
▶ Software Exploitation
▶ Cybercrime and Forensics
▶ Kernel Programming

Track coordinator:

▶ Prof.dr Herbert Bos (h.j.bos@vu.nl)
Track: Foundations of Computing and Concurrency

Track theme:

▶ Formal methods, especially in concurrent programming

Track core:

▶ Logical Verification
▶ Advanced Logic
▶ Distributed Algorithms
▶ Term Rewriting Systems
▶ Protocol Validation

Track coordinator:

▶ Dr Femke van Raamsdonk (f.van.raamsdonk@vu.nl)
Track: Internet and Web Technology

**Track theme:**
- Software technology for web, internet, and cloud computing

**Track core:**
- Internet Programming
- Service Oriented Design
- Distributed Algorithms
- Performance of Networked Systems
- Web Services and Cloud-based Systems

**Track coordinator:**
- Dr Spyros Voulgaris (spyros@cs.vu.nl)
Track: Parallel Computing Systems

**Track theme:**
- Parallel computing is everywhere: from mobile phones to supercomputers

**Track core:**
- Parallel System Architectures
- Programming Large-scale Parallel Systems
- Parallel Programming Practical
- Programming Multi-core and Many-core Systems
- Performance Engineering

**Track coordinator:**
- Dr Clemens Grelck (c.grelck@uva.nl)
Track: Software Engineering and Green IT

Track theme:

- Systematic and quantifiable approaches to the development, execution and maintenance of software

Track core:

- Service Oriented Design
- Software Asset Management
- Green Lab
- Software Architecture
- Software Testing

Track coordinator:

- Prof.dr Patricia Lago (p.lago@vu.nl)
Ensuring the breadth of each individual study program

Constrained choice modules (6–18 EC):

- One course on foundations
- One course on software engineering
- One course on programming
- One course on mathematics

- Each to be chosen from a predefined set of choices
- Partially covered by the chosen track’s core
Free Choice Courses

**Free Choice (18–30 EC):**

- Courses from other tracks
- Other courses from constrained choice packages
- Any other course (Master-level) from Computer Science, Computational Science, Logic, Artificial Intelligence, or Bioinformatics
YOU decide about much of the study programme

Want to go to industry?

▶ Do your graduation project as an internship with a company

Want to go for a PhD / more ambitious job?

▶ Combine
  ▶ literature study
  ▶ individual project
  ▶ graduation project

for a more ambitious scientific research project of up to 48 EC or almost a year of work
Admission to the Programme

For university students

- BSc degree in Computer Science or Informatica (or closely related subject)
- Other degrees: individual assessment

For HBO students

- BSc degree in Informatica (or closely related subject)
- Individual assessment of strengths and deficits
  - Additional courses from our BSc/MSc programmes as necessary
Why you should join the VU/UvA Master in Computer Science

10 good reasons:

▶ VU and UvA are among the top universities in Europe
▶ Learn from world-renowned scientists
▶ Small student groups
▶ Wide choice of courses
▶ Excellent teacher/student ratio
▶ Become part of a research group for your graduation project
▶ Modern state-of-the-art facilities
▶ International environment at home
▶ Excellent job market for graduates (academia or industry)
▶ Get two universities for the price of one
The End

More Information:

▶ www.vu.nl/ma-computerscience

Programme director:

▶ Dr Thilo Kielmann (thilo.kielmann@vu.nl)

These slides:


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